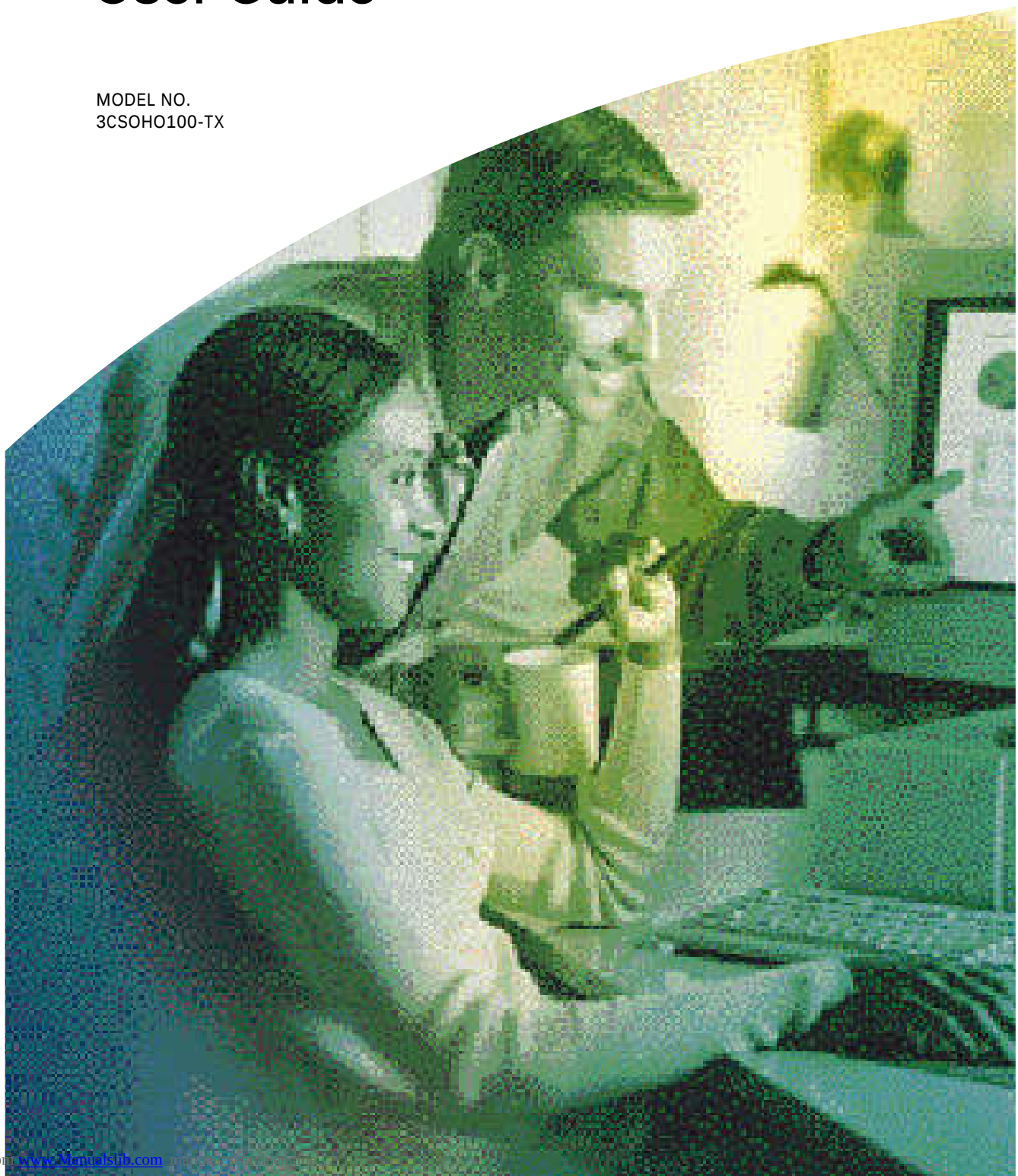
3Com OfficeConnect

Fast Ethernet Network Interface Card User Guide

MODEL NO.
3CSOHO100-TX



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Member of the 3Com OfficeConnect family

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About This Guide

This guide describes how to install, configure, and troubleshoot the 3Com® OfficeConnect® Fast Ethernet Network Interface Card (NIC).

This guide is appropriate for anyone who is familiar with the basic elements of a PC and is interested in connecting a PC to a network.

If release notes are shipped with your product and the information there differs from the information in this guide, follow the instructions in the release notes.

Most user guides and release notes are available in Adobe Acrobat Reader Portable Document Format (PDF) or HTML on the 3Com World Wide Web site:

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Conventions

Table 1 and Table 2 list conventions that are used throughout this guide.

Table 1 Notice Icons

Icon	Notice Type	Description
	Information note	Important features or instructions
	Caution	Information to alert you to potential damage to a program, system, or device
	Warning	Information to alert you to potential personal injury

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Table 2 Text Conventions

Convention	Description
`Screen displays`	This typeface represents information as it appears on the screen.
The words "enter" and "type"	When you see the word "enter" in this guide, you must type something, and then press the Return or Enter key. Do not press the Return or Enter key when an instruction simply says "type."
Keyboard key names	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press Ctrl+Alt+Del
Menu commands and *buttons*	Menu commands or button names appear in italics. Example: From the *Help* menu, select *Contents*.
Words in *italics*	Italics are used to: ■ Emphasize a point. ■ Denote a new term at the place where it is defined in the text. ■ Identify menu names, menu commands, and software button names. Examples: From the *Help* menu, select *Contents*. Click *OK*.

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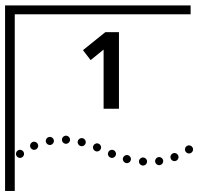

GETTING STARTED

The 3Com® OfficeConnect® Fast Ethernet Network Interface Card (NIC) allows you to connect your personal computer (PC) to an Ethernet (10BASE-T) or Fast Ethernet (100BASE-TX) network.

The OfficeConnect NIC is specifically designed for the small office/home office environment.

What This Guide Covers

This guide provides all the information you need to install the OfficeConnect NIC and connect it to a network. It tells you how to:

- Insert the NIC into a PC.
- Attach the PC to a network port on a hub or switch.
- Install the NIC network driver and diagnostics software on the PC.
- Configure the NIC on the PC.
- Troubleshoot problems you may encounter with the NIC.

What This Chapter Covers

This chapter provides a brief introduction to networking and describes the features of your OfficeConnect NIC.

If you're already familiar with basic networking concepts, you can start with Chapter 2, "Installing the Network Interface Card."

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Understanding Networking

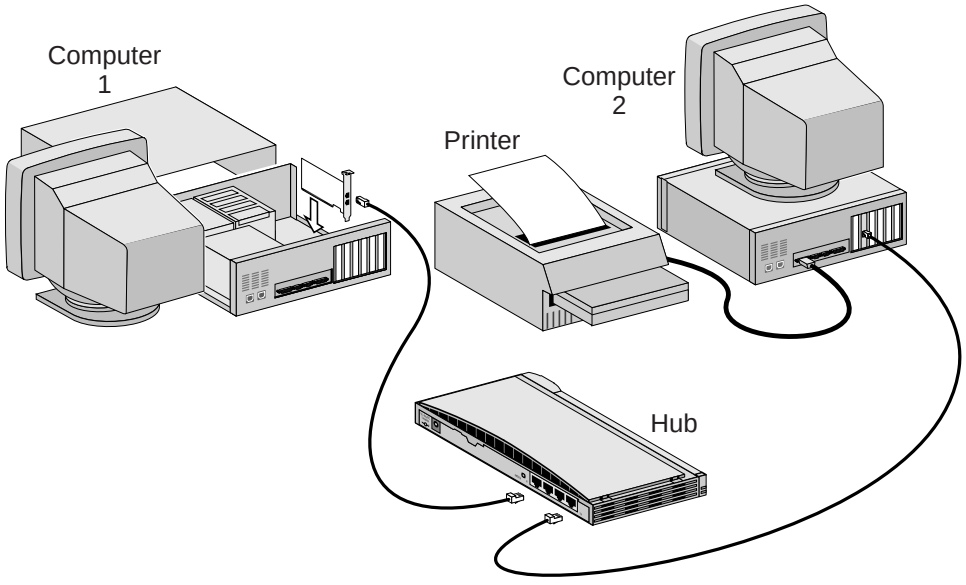
A computer network is a group of computers and other associated devices, such as printers, fax machines, and modems, that are connected to one another so they can share resources and information.

A network allows you to:

- Share resources — You and others on the network can share resources, such as a data file or directory, hard disk drive, printer, scanner, or modem.
- Exchange information — You can communicate and exchange information, such as e-mail, with all designated users on the network.
- Provide server support — You can store files and applications in a central location on one PC hard drive, where they can be accessed by any network users who have the proper authorization.

Figure 1 shows a sample network composed of two PCs, a printer, and a hub.

Figure 1 Sample Network



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Every network requires special software, called a network operating system (NOS) (such as Windows NT or NetWare), to control the flow of information between users.
Each PC that you want to connect as part of the network must have an operating system (such as Windows 95, Windows 98, or Windows NT) that can communicate with the NOS.

In a peer-to-peer networking architecture, the operating system that is installed on each PC acts as the NOS. In a client/server networking architecture, the operating system that is installed on each client PC communicates with the NOS, which is installed on the server PC.

There are two basic types of small business network architectures: peer-to-peer and client/server.

Peer-to-Peer Networks

A peer-to-peer network is generally suited for home and small office use. This type of network is the easiest to install, accommodates up to about five PCs, and is suitable for sharing applications, data, printers, and other localized resources.

The PCs on a peer-to-peer network are connected directly to one other or to a central point, usually a device called a *hub*. Unlike a client/server network, a peer-to-peer network allows users to share information without relying on a centralized server. Figure 1 is an example of a peer-to-peer network.

The PCs on a peer-to-peer network require an operating system such as Windows 95 or Windows 98. This operating system acts as the NOS.

For more information on peer-to-peer networking, see the Network Assistant CD *included in your package.*

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Client/Server Networks

A client/server network is ideal for organizations that require fast network access for large applications such as multimedia, databases, and video.

In a client/server network, all shared applications and files are stored on one central computer known as the *server*. Network users (*client* PCs) can store their own files on their own PCs, and then use the server to access shared files and peripherals, such as printers, fax machines, and modems.

The client PCs on a client/server network require an operating system such as Windows 95, Windows 98, or Windows NT. The servers on a client/server network require a NOS such as Windows NT or NetWare.

Ethernet and Fast Ethernet Networking Protocols

Ethernet and Fast Ethernet are local area network (LAN) protocols, or specifications, that define the signaling of the network and specify how data is placed on and retrieved from the network.

Fast Ethernet is the same as Ethernet, except for the speed:

- Ethernet has a data transfer rate of 10 Mbps (megabits per second).
- Fast Ethernet has a data transfer rate of 100 Mbps.

The OfficeConnect NIC is compatible with both Ethernet and Fast Ethernet networks. It automatically connects to the network at 10 Mbps or 100 Mbps, depending on the speed of the connected network hub or switch.

For more information on Ethernet and Fast Ethernet, see Appendix A.

For more information on networking, see the Network Assistant CD *included in your package.*

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Understanding Network Interface Cards

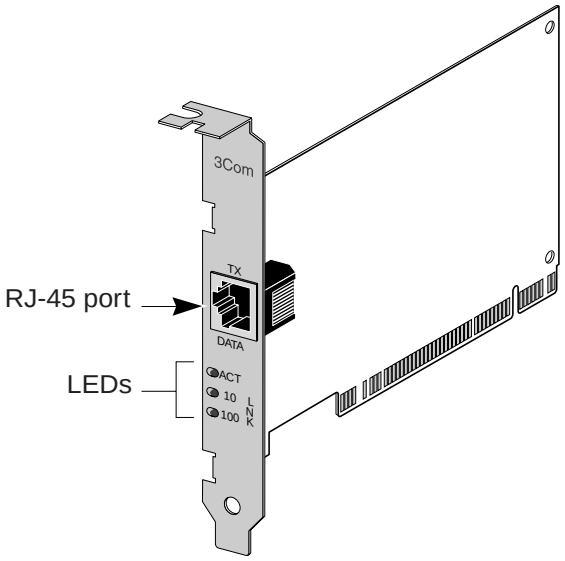
A network interface card (NIC) is a printed circuit board that plugs into a PC expansion slot in your computer to provide a connection to a network.

Once the NIC is installed in your PC, you connect it to the network media (cabling, such as unshielded twisted-pair [UTP]), which in turn connects to all the devices on the network.

About the OfficeConnect NIC

The OfficeConnect NIC is a 10/100 Mbps PCI (Peripheral Component Interconnect) NIC. It connects your PC to a 10 Mbps Ethernet or 100 Mbps Fast Ethernet network.

Figure 2 OfficeConnect NIC



The OfficeConnect NIC backplate has three light-emitting diodes (LEDs):

- 10 LNK (link)
- 100 LNK (link)
- ACT (activity)

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After the NIC is installed, these LEDs show whether there's an active connection between the NIC and the network, and the speed at which you're connected. (See "Interpreting the LEDs" in Chapter 4 for more information.)

Required Hardware

You can install the OfficeConnect NIC in any IBM-compatible PC with an available PCI expansion slot. Almost all PCs currently on the market have such slots. (See "Inserting the NIC" in Chapter 2 for more information about PCI expansion slots.)

Required Cabling

You need an unshielded twisted-pair cable with RJ-45 connectors on both ends to connect the OfficeConnect NIC to the network. This cable is not supplied with the NIC.

- If you're connecting to a 10 Mbps Ethernet network, use a Category 3, 4, or 5 UTP cable.
- If you're connecting to a 100 Mbps Fast Ethernet network, use a Category 5 UTP cable.

The maximum Ethernet cable length allowed between the NIC and the network device to which it is connected is 328 feet (100 meters).

For more information on cabling, see "Cabling Requirements" in Appendix A.

Required Software

The OfficeConnect NIC is compatible with the following operating systems:

- Windows 95
- Windows 98
- Windows NT versions 4.0 and 3.51

You can use the OfficeConnect NIC to connect to both Microsoft and NetWare network environments.

The *EtherDisk* diskette included in your package contains the software (configuration programs, diagnostic programs, and device drivers) that allows your NIC to work with all of the operating systems mentioned in this section.

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2 INSTALLING THE NETWORK INTERFACE CARD

This chapter explains how to install the OfficeConnect NIC in your PC and connect it to an Ethernet or Fast Ethernet network.

Preparing for Installation

Before you install the OfficeConnect NIC, make sure that you have the following items:

- OfficeConnect 10/100 Fast Ethernet NIC
- OfficeConnect *EtherDisk* diskette

If any of these items are damaged or missing, contact your shipper or network supplier.

You also need an unshielded twisted-pair (UTP) cable with RJ-45 connectors on both ends to connect the OfficeConnect NIC to an Ethernet or Fast Ethernet network. This cable is not supplied with the NIC.

Table 3 specifies the type of cable that you need for the type of network that you are connecting to (10 Mbps Ethernet or 100 Mbps Fast Ethernet).

The maximum distance between any two devices on your network can be no more than 328 feet (100 meters).

Table 3 Cable Guidelines

Type of Network	Cable Required	Maximum Cable Length
Ethernet (10BASE-T)	Category 3, 4, or 5 UTP with RJ-45 connectors on both ends	328 ft/100 m
Fast Ethernet (100BASE-TX)	Category 5 UTP with RJ-45 connectors on both ends	328 ft/100 m

The next step is to insert the NIC in the PC.

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Inserting the NIC

To insert the OfficeConnect NIC in your PC:

1 **Remove all jewelry from your hands and wrists.**

CAUTION: *The NIC is packed in an antistatic container to protect it during shipment. To avoid damaging any static-sensitive components on the NIC, before you remove it from the container, touch the metal chassis of your PC to discharge static electricity from your body. Also, be careful to handle the NIC by its edges only.*

2 **Turn the power off to the PC. Unplug the power cable. Detach all other cables from the PC.**

3 **Remove the PC cover.**

See your PC documentation for details.

4 **Find an empty PCI expansion slot and remove the corresponding slot cover. Keep the backplate screw.**

The OfficeConnect NIC works in a PCI expansion slot. Some PCs have three types of expansion slots: PCI, ISA, and EISA.

PCI slots are usually white and shorter than the other expansion slots (see Figure 3). ISA slots are usually black. EISA slots are usually brown, and are as long as ISA slots. If you're not sure what type of expansion slots your PC has, see your PC documentation for details.

For more information on PCI expansion slots, see "Frequently Asked Questions" in Chapter 4.

5 **Carefully insert the NIC into the slot, pressing firmly with steady pressure until it's seated properly.**

The NIC's metal backplate should be positioned so that you can easily fasten it with the backplate screw. You shouldn't be able to see any of the NIC's edge connector.

Not all PCs have expansion slots positioned on the bottom of the chassis, as shown in Figure 3. You may be using a PC with the expansion slots on a vertical panel. If so, follow the same insertion instructions, except install the NIC horizontally. If it helps, position the PC on its side temporarily to insert the NIC securely.

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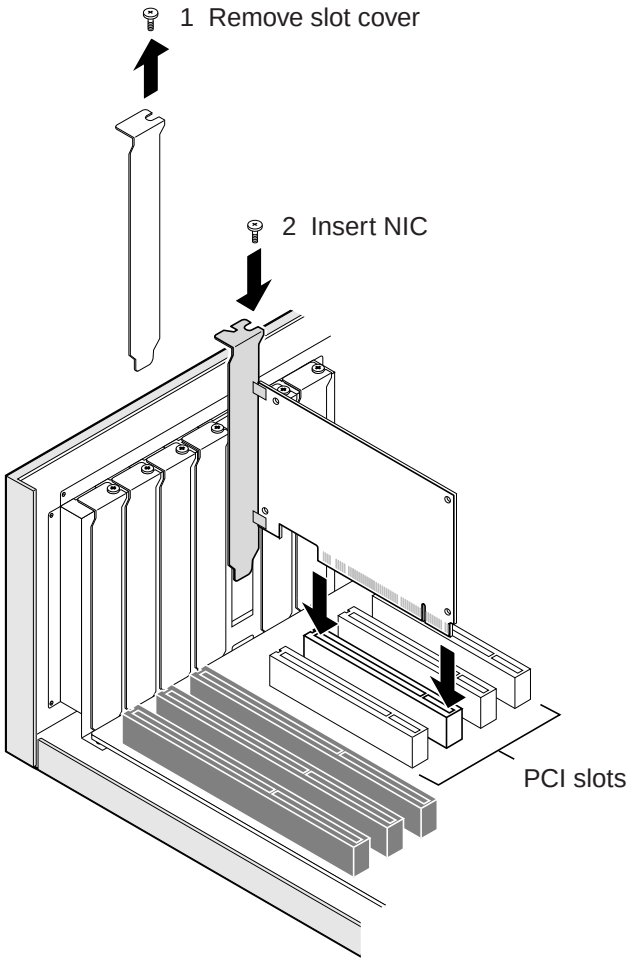
Figure 3 Inserting the NIC



6 **Fasten the NIC with the backplate screw you removed in step 4.**

7 **Replace the PC cover.**

8 **Reconnect any cables that you disconnected before you opened the PC.**

Do not turn on the power to the PC.

The next step is to connect the NIC to your network.

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Connecting the NIC to Your Network

This section describes how to connect the OfficeConnect NIC to a network device. For more information on networking or creating a peer-to-peer network, see the *Network Assistant CD* included in your package.

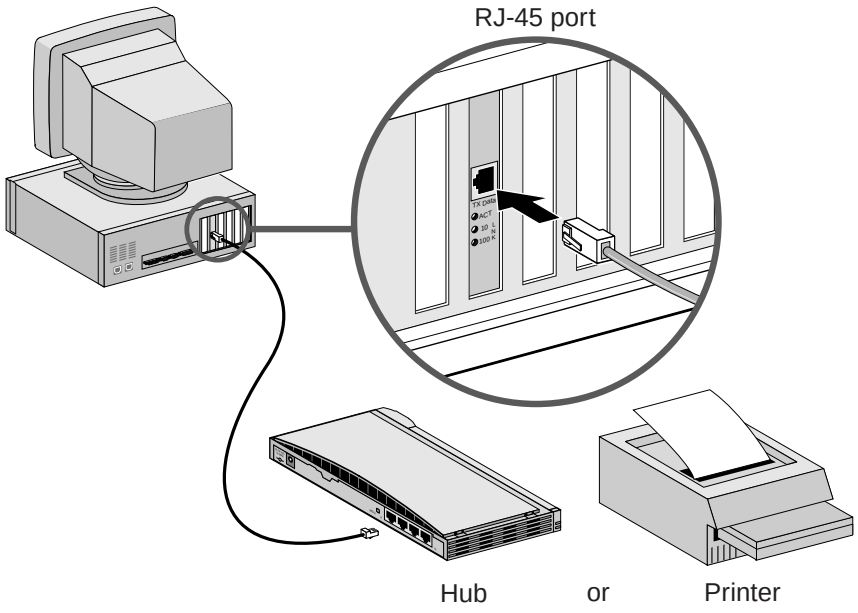
To connect the OfficeConnect NIC to a network device:

1 **Using an unshielded twisted-pair (UTP) cable, insert one of the RJ-45 connectors on the cable into the RJ-45 port on the installed NIC, as shown in Figure 4.**

- If you're connecting to a 10 Mbps Ethernet network, use a Category 3, 4, or 5 UTP cable.
- If you're connecting to a 100 Mbps Fast Ethernet network, use a Category 5 UTP cable.

See Table 3 at the beginning of this chapter or Appendix A for more information on network cabling requirements.

Figure 4 Connecting the Network Cable to the NIC



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2 Insert the other end of the UTP cable into an active network port.

An active network port may be on a network hub or switch, or a peripheral device (such as a printer) that is network-ready (that is, it already has a NIC inside it).

Do not turn on the power to the PC.

The next step is to install the network driver. Go to Chapter 3.

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3 INSTALLING THE NETWORK DRIVER

This chapter describes how to install the network driver in your PC. You must install the network driver so that the OfficeConnect NIC can transmit and receive data over the network.

Instructions are provided for the following operating systems supported by the OfficeConnect NIC:

- Windows 95
- Windows 98
- Windows NT

Go to the appropriate section in this chapter for your operating system.

If a NIC has already been installed in your PC, you must remove its network driver before you install the driver for the OfficeConnect NIC. To find out whether a NIC has already been installed in your PC, and to remove its driver, follow the steps in "Removing NIC Software" in Chapter 4.

Windows 95

To install the network driver under Windows 95, you need the Windows 95 installation files. These files may be on a CD or diskettes, or they may have been copied to your hard drive when Windows 95 was installed on your system.

The version of Windows 95 installed on your PC determines which of the driver installation procedures to use.

To determine the Windows 95 version installed on your PC:

1 **Right-click the My Computer icon, and then click *Properties*.**

The System Properties window appears.

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2 **Check the version number on the General screen, under System:**

- If 4.00.950 or 4.00.950A is displayed, follow the procedure for Windows 95 Version A.
- If 4.00.950B is displayed, follow the procedure for Windows 95 Version B.

Windows 95 Version A

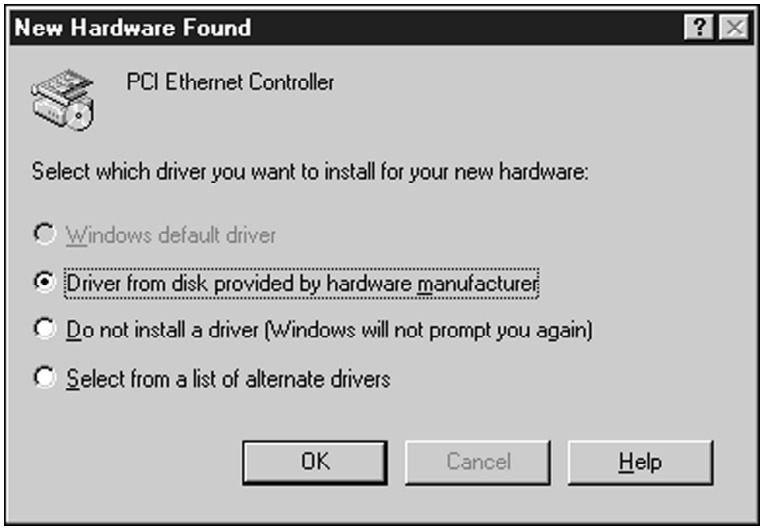
To install the network driver in a PC running version A of Windows 95:

1 **Make sure that the NIC is installed in your PC and that it's connected to the network, as described in Chapter 2.**

2 **Turn on the power to the PC.**

Windows 95 detects the NIC and displays the New Hardware Found dialog box (Figure 5), prompting you for the driver you want to install for your new hardware.

Figure 5 New Hardware Found Dialog Box


New Hardware Found
PCI Ethernet Controller
Select which driver you want to install for your new hardware:
Windows default driver
Driver from disk provided by hardware manufacturer
Do not install a driver (Windows will not prompt you again)
Select from a list of alternate drivers
OK
Cancel
Help

3 **Select *Driver from disk provided by hardware manufacturer*, and then click *OK*.**

The Install from Disk dialog box appears.

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4 Insert the *EtherDisk* diskette in drive A and make sure that A:\ appears in the Copy files from entry box.

5 Click *OK*.

- If this is the first time that networking is being installed on your PC, the Identification tab of the Network window is displayed. Go to step 6.
- If networking has already been installed, you're prompted for the Windows 95 CD. In this case, go to step 7.

6 In the specified fields of the Identification tab screen, enter the following information, and then click *OK*:

- Computer Name — Identifies the computer on the network for other users. This entry must be a unique name of 15 characters or fewer, containing no spaces.
- Workgroup — Identifies the group (for example, your department name) to which your computer belongs. If you're setting up a simple peer-to-peer network, this entry must be exactly the same for all the PCs in your network.
- Computer Description — Displays additional details to other users on the network about this PC. For example, you could specify that the PC has a printer attached. Filling in this field is optional.

7 Insert the Windows 95 CD in the CD-ROM drive, and then click *OK*.

If you don't have the Windows 95 CD, click *OK*. Enter the path for the Windows 95 installation files on your PC (such as C:\WIN95) in the Copying Files entry box, and then click *OK*.

Files are copied. You're prompted to restart your PC.

8 Remove the *EtherDisk* diskette from drive A, and then click *Yes*.

You must reboot your PC to complete the installation.

After Windows restarts, you're prompted to enter your name and network password.

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9 Enter your user name and password, and then click *OK*.

The driver installation is complete. To confirm successful installation, go to "Verifying Successful Installation" later in this chapter.

Windows 95 Version B

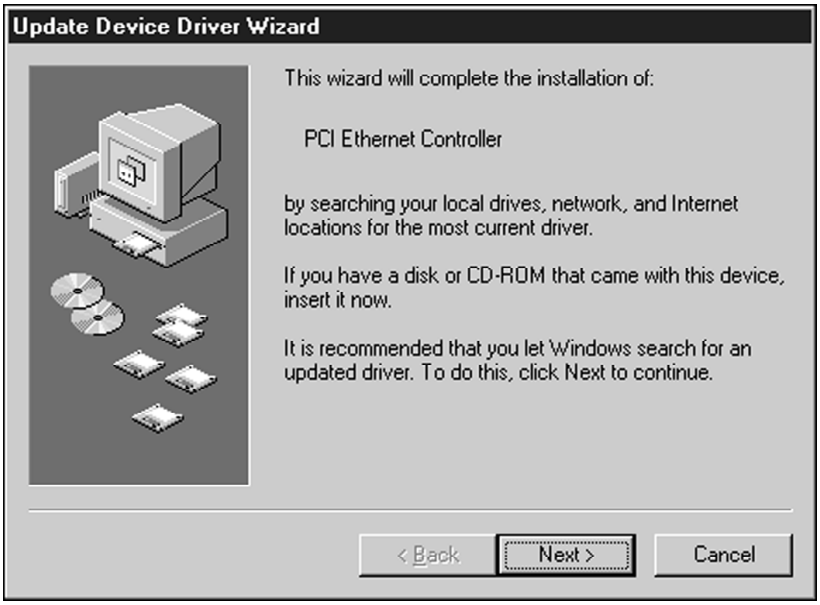
To install the network driver in a PC running version B of Windows 95:

1 Make sure that the NIC is installed in your PC and that it's connected to the network, as described in Chapter 2.

2 Turn on the power to the PC.

Windows 95 detects the NIC. The Update Device Driver Wizard (Figure 6) starts and prompts you for a diskette or CD.

Figure 6 Update Device Driver Wizard


Update Device Driver Wizard
This wizard will complete the installation of:
PCI Ethernet Controller
by searching your local drives, network, and Internet locations for the most current driver.
If you have a disk or CD-ROM that came with this device, insert it now.
It is recommended that you let Windows search for an updated driver. To do this, click Next to continue.
< Back
Next >
Cancel

3 Insert the *EtherDisk* diskette in drive A, and then click *Next*.

Windows finds the driver and asks if you want to use this driver.

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4 Click *Finish*.

The Insert Disk dialog box prompts you for the OfficeConnect *EtherDisk* diskette.

5 Click *OK*.

The Copying Files dialog box appears.

6 Make sure that A:\ appears in the Copying files from entry box, and then click *OK*.

- If this is the first time that networking is being installed on your PC, the Identification tab of the Network window is displayed. Go to step 7.
- If networking has already been installed, you're prompted for the Windows 95 CD. In this case, go to step 8.

7 In the specified fields of the Identification tab screen, enter the following information, and then click *OK*:

- Computer Name — Identifies the computer on the network for other users. This entry must be a unique name of 15 characters or fewer, containing no spaces.
- Workgroup — Identifies the group (for example, your department name) to which your computer belongs. If you're setting up a simple peer-to-peer network, this entry must be exactly the same for all the PCs in your network.
- Computer Description — Displays additional details to other users on the network about this PC. For example, you could specify that the PC has a printer attached. Filling in this field is optional.

8 Insert the Windows 95 CD in the CD-ROM drive, and then click *OK*.

If you don't have the Windows 95 CD, click *OK*. Enter the path for the Windows 95 installation files on your PC (such as C:\WIN95) in the Copying Files entry box, and then click *OK*.

Files are copied. You're prompted to restart your PC.

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9 **Remove the *EtherDisk* diskette from drive A, and then click *Yes*.**

You must reboot your PC to complete the installation.

After Windows restarts, you're prompted for your user name and password.

10 **Enter your user name and password, and then click *OK*.**

The driver installation is complete. To confirm successful installation, go to "Verifying Successful Installation" later in this chapter.

Windows 98

To install the network driver in a PC running Windows 98:

1 **Make sure that the NIC is installed in your PC and that it's connected to the network, as described in Chapter 2.**

2 **Turn on the power to the PC.**

Windows 98 detects the NIC. The Add New Hardware Wizard (Figure 7) starts.

Figure 7 Add New Hardware Wizard

Add New Hardware Wizard
This wizard searches for new drivers for:
PCI Ethernet Controller
A device driver is a software program that makes a hardware device work.
< Back
Next >
Cancel

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3 **Insert the *EtherDisk* diskette in drive A, and then click *Next*.**

4 **Select *Search for the best driver for your device (Recommended)*, and then click *Next*.**

5 **Select *Floppy disk drives*, and then click *Next*.**

Windows finds the driver file for the device.

6 **Click *Next*.**

Files are copied.

If the Insert Disk window appears, prompting you to insert the *EtherDisk* diskette, click *OK*.

You're then prompted for the Windows 98 CD.

7 **Insert the Windows 98 CD in the CD-ROM drive, and then click *OK*.**

If you don't have the Windows 98 CD, click *OK*. Enter the path for the Windows 98 installation files on your PC in the Copying Files entry box.

Files are copied. The installation is complete when you're prompted to click *Finish*.

8 **Click *Finish*.**

You're prompted to restart the PC.

9 **Click *Yes* to restart the PC.**

You must reboot your PC to complete the installation.

The driver installation is complete. To confirm successful installation, go to "Verifying Successful Installation" later in this chapter.

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Windows NT

This section describes how to install the network driver in a PC running Microsoft Windows NT 4.0 or 3.51.

Windows NT 4.0

To install the network driver in a PC running Windows NT 4.0:

1. **Make sure that the NIC is installed in your PC and that it's connected to the network, as described in Chapter 2.**
2. **Turn on the power to the PC.**
3. **Double-click the My Computer icon, then the Control Panel icon, and then the Network icon.**

   The Network window appears.
4. **Click the Adapters tab.**

   If networking hasn't been installed on your system before, Windows NT asks you if you want to install networking. Click *Yes*. See the WINNT.TXT file located on the *EtherDisk* diskette or your Windows NT documentation for instructions.
5. **Click *Add*.**

   The Select Network Adapter dialog box appears.
6. **Click *Have Disk*.**

   The Insert Disk dialog box appears.
7. **Insert the *EtherDisk* diskette in drive A, enter the path to drive A if it's not already displayed, and click *OK*.**

   The OEM Option dialog box appears.
8. **If not already selected, select *3Com OfficeConnect 10/100 Fast Ethernet NIC*, and click *OK*.**

   Files are copied. The 3Com NIC Diagnostics window appears.
9. **Click *Close* to continue the installation.**

   The Network screen appears with the OfficeConnect NIC displayed in the list of network adapters.
10. **Click *Close*.**

    The driver installation is complete. To confirm successful installation, go to "Verifying Successful Installation" later in this chapter.

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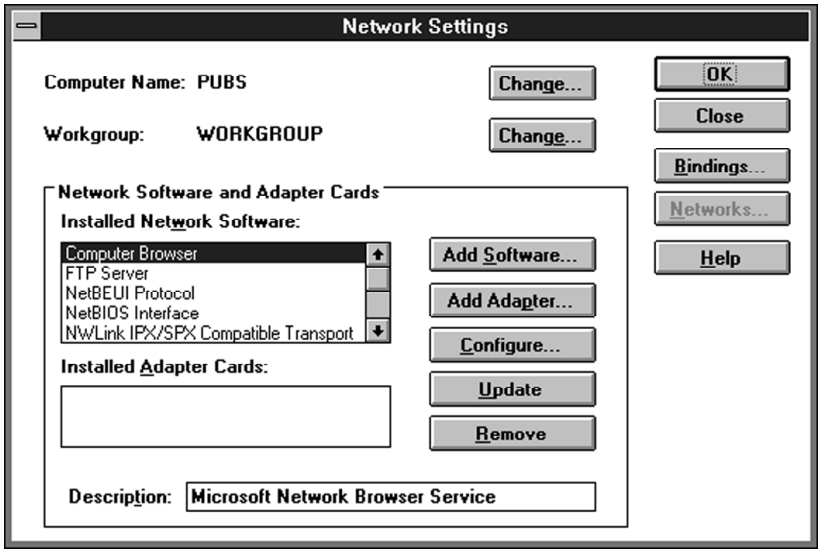
Windows NT 3.51

To install the network driver in a PC running Windows NT 3.51:

1. **Make sure that the NIC is installed in your PC and that it's connected to the network, as described in Chapter 2.**
2. **Turn on the power to the PC.**
3. **In the Main window of the Program Manager, double-click the Control Panel icon and then the Network icon.**

   The Network Settings window (Figure 8) appears.

Figure 8 Network Settings Window



4. **Click *Add Adapter.***

   The Add Network Adapter window appears.

5. **Click the down arrow to expand the Network Adapter Card list box, and then scroll down and select *<Other> Requires disk from manufacturer.***
6. **Click *Continue*.**

   The Insert Disk dialog box appears.

7. **Insert the *EtherDisk* diskette in drive A, make sure that A:\ appears in the entry box, and then click *OK*.**

   The Select OEM Option window appears.

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8 **Make sure that *3Com OfficeConnect 10/100 Fast Ethernet NIC* is selected, and then click *OK*.**

Files are copied. The 3Com NIC Diagnostics screen appears.

9 **Click *Close* to continue the installation.**

The Network Settings window reappears.

10 **Click *OK* in the Network Settings window.**

If the TCP/IP Configuration screen appears, enter the requested information, and then click *OK*. For help with this information, click the *Help* button on the TCP/IP Configuration screen.

You're prompted to restart Windows NT.

11 **Remove the *EtherDisk* diskette from drive A.**

12 **Click *Restart Now*.**

You must reboot your PC to complete the installation.

The driver installation is complete. To confirm successful installation, go to the next section, "Verifying Successful Installation."

Verifying Successful Installation

To confirm that the NIC is installed correctly in your PC, follow the steps appropriate for your operating system.

Windows 95 and Windows 98

To confirm that the NIC is installed correctly in a PC running Windows 95 or Windows 98:

1 **Right-click the My Computer icon, click *Properties*, and then select the Device Manager tab.**

A list of devices appears, arranged by type (Figure 9).

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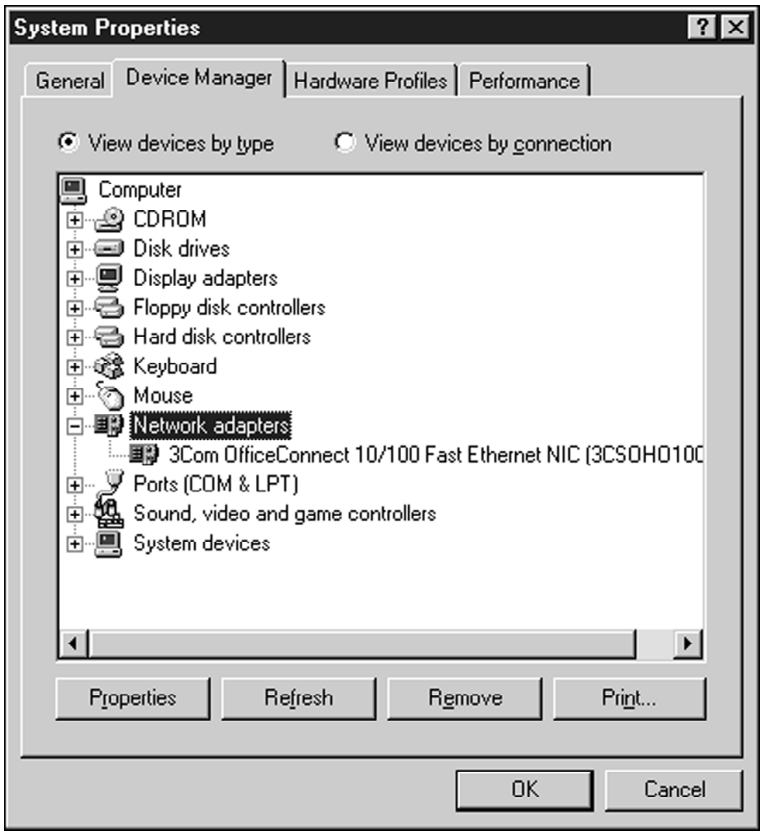
Figure 9 Device Manager Screen



2 Double-click *Network adapters*.

The name of the installed OfficeConnect NIC appears, as shown in Figure 9.

If a yellow exclamation point (!) or a red X appears next to the NIC name, the installation wasn't successful. Go to "Frequently Asked Questions" in Chapter 4 to troubleshoot the NIC.

3 Double-click the name of the NIC to display a description of the NIC and its current status.

The message in the Device status panel confirms that the OfficeConnect NIC is working properly.

4 Click *Cancel* to close each dialog box. Then close the Control Panel and My Computer windows.

You've successfully installed and configured the OfficeConnect NIC.

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Windows NT 4.0

To confirm that the NIC is installed correctly in a PC running Windows NT 4.0:

1. **Double-click the Network icon in the Control Panel.**
2. **Click the Adapters tab.**

   The OfficeConnect NIC should appear in the list of network adapters. If it doesn't appear, see Chapter 4 for troubleshooting information.

Windows NT 3.51

To confirm that the NIC is installed correctly in a PC running Windows NT 3.51:

1. **Double-click the File Manager icon.**
2. **From the *Disk* menu, select *Connect Network Drive*.**

   The presence of network server names confirms successful installation.

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4 TROUBLESHOOTING INSTALLATION PROBLEMS

This chapter explains how to isolate and solve problems that may occur when you install the OfficeConnect NIC.

Basic Troubleshooting Tips

If you have trouble installing your OfficeConnect NIC, or if the installation failed (as described in "Verifying Successful Installation" in Chapter 3), follow these basic troubleshooting tips.

CAUTION: *Before inserting or removing the NIC from your PC, turn the power off to the PC and unplug the power cord.*

- Check the NIC installation by reviewing Chapter 2. Make sure that the NIC is seated correctly in an appropriate expansion slot. Check for specific hardware problems, such as loose or broken connections.
- Inspect all cables and connections. Check the length and rating of the cable. Make sure that the cable and its length comply with 10BASE-T or 100BASE-TX recommendations. See Table 3 in Chapter 2 or Appendix A for more information.
- Make sure that you're running the latest BIOS for your PC. If your BIOS hasn't been upgraded in the previous 12 months, contact your PC manufacturer to obtain the current version of your BIOS software.
- Run the NIC self-tests and the Echo test, as described later in this chapter.
- Download the latest OfficeConnect NIC driver from the 3Com World Wide Web site and install it in your PC. Run the NIC self-tests and the Echo test again, using the same option settings as those used on the failed NIC. If the tests still fail, the NIC may be defective.

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Interpreting the LEDs

The OfficeConnect NIC has three light-emitting diodes (LEDs) that can help indicate when there are problems with your network connection.

See Figure 2 in Chapter 1 for a picture of the LEDs. Table 4 explains the LED states.

Table 4 LED Descriptions

LED	State	Meaning
10 LNK (link)	On	If the network driver is installed, as described in Chapter 3, the connection to the 10BASE-T Ethernet network is active. If the driver is not installed, the NIC is receiving power.
	Off	Something is preventing the connection between the NIC and the network. See the troubleshooting steps following this table.
	Blinking	The cable polarity is reversed. Try a different network cable.
100 LNK (link)	On	If the network driver is installed, as described in Chapter 3, the connection to the 100BASE-TX Fast Ethernet network is active. If the driver is not installed, the NIC is receiving power.
	Off	Something is preventing the connection between the NIC and the network. See the troubleshooting steps following this table.
ACT (activity)	Flashing	Network traffic is present.
	Steady	Heavy network traffic is present.
	Off	No network traffic is present.

If the LNK (10 LNK or 100 LNK) LED is off and the PC is powered on and the network cable is connected, check the following:

1. **Ensure that the network hub or device to which the NIC is connected and the cable connecting to your NIC comply with the 10BASE-T or 100BASE-TX specifications.**
2. **Ensure that the network hub or device to which the NIC is connected is powered on.**

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Starting the 3Com NIC Diagnostics Program

The 3Com NIC Diagnostics program allows you to run diagnostic tests, change NIC configuration settings, and access 3Com support services and Help topics.

This section describes how to use the 3Com NIC Diagnostics program to help troubleshoot problems you may encounter with the NIC.

For instructions on changing NIC configuration settings, see Chapter 5.

The 3Com NIC Diagnostics program is installed automatically when you install the network driver.

To start the 3Com NIC Diagnostics program:

1 **Double-click the 3Com icon in the Windows system tray.**

If the 3Com icon isn't visible in the system tray, follow these steps:

a From the Windows *Start* menu, select *Programs*.

b Select *3Com NIC Utilities.*

c Click *3nicdiag.*

For PCs running Windows NT 3.51, from the File *menu, select* Run. *At the command prompt, enter the path for the 3Com NIC Diagnostics program. The default path is* C:\WINNT35\SYSTEM32\3NICDIAG.EXE.

A warning message appears, stating that your PC will be disconnected from the network.

This means that no applications other than the 3Com NIC Diagnostics program can connect to the network while you run the diagnostics program.

All applications are automatically reconnected to the network when you exit the diagnostics program. If your PC doesn't automatically reconnect to the network, reboot the PC.

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2 Click *OK*.

The 3Com NIC Diagnostics General screen (Figure 10) appears.

Figure 10 General Screen

Click the Help *button to receive information about the diagnostic screen that's currently active.*

The General screen displays general information about the NIC. It also allows you to show or not show the 3Com icon in the Windows system tray by clicking the *Enable Tray Control* check box. The 3Com icon provides quick access to the 3Com NIC Diagnostics program.

3 Click *Cancel* to exit the 3Com NIC Diagnostics program.

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Running the NIC Self-Tests

The first tests to run when you have a problem with the OfficeConnect NIC are the NIC self-tests.

The NIC self-tests can verify that the OfficeConnect NIC is working correctly by checking the physical components, connectors, and circuitry on the NIC.

To run the NIC self-tests:

1 **Double-click the 3Com icon in the Windows system tray.**

If the 3Com icon isn't visible in the system tray, follow the instructions in the previous section, "Starting the 3Com NIC Diagnostics Program."

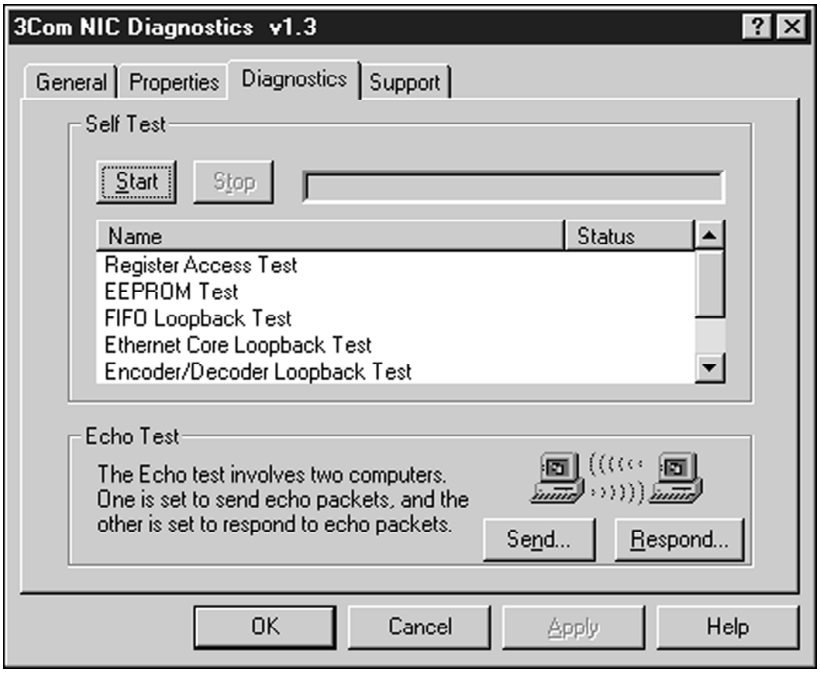
2 **Click *OK*.**

The 3Com NIC Diagnostics General screen appears (Figure 10).

3 **Click the Diagnostics tab.**

The Diagnostics screen (Figure 11) appears.

Figure 11 Diagnostics Screen



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For a description of each test, click the Help *button on the screen or click the question mark (?) at the top of the screen, move it over the test, and click once. A pop-up box displays information about the test.*

4 Click *Start* in the Self-Test panel.

A six-test sequence begins. The status of each test (such as *Passed* or *In Progress*) is displayed in the Status column next to each test as the tests run and are completed.

You can click *Stop* to stop the tests at any point.

- If all of the tests are successful, the OfficeConnect NIC is working correctly.
- If any test failed, click the question mark (?) at the top right corner of the screen, move it over the failed test topic, and click once. A pop-up box displays information about the test and what to do if it fails.

Running the Echo Test

After you've confirmed that the OfficeConnect NIC is functioning correctly by running the NIC self-tests (as described in the previous section), verify that the NIC is transmitting and receiving data over the network by running the Echo test.

The Echo test checks the ability of the NIC to transmit and receive data while it's connected to the network.

To run the Echo test, you need two PCs networked together.

- The first PC is used to send data. This is called the *sending* PC.
- The second PC receives data sent from the first PC. This is called the *responding* PC.

The two PCs must each have a 3Com OfficeConnect NIC installed. Also make sure that the network driver is installed.

CAUTION: *Running the Echo test while connected to an active network with more than two computers can cause intermittent failures within the test. Make sure that only two computers are connected to the network before running the Echo test.*

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To run the Echo test:

1 **On both PCs:**

a From the Windows *Start* menu, select *Programs*.

b Select *3Com NIC Utilities.*

c Click *3nicdiag*.

d Click *OK*.

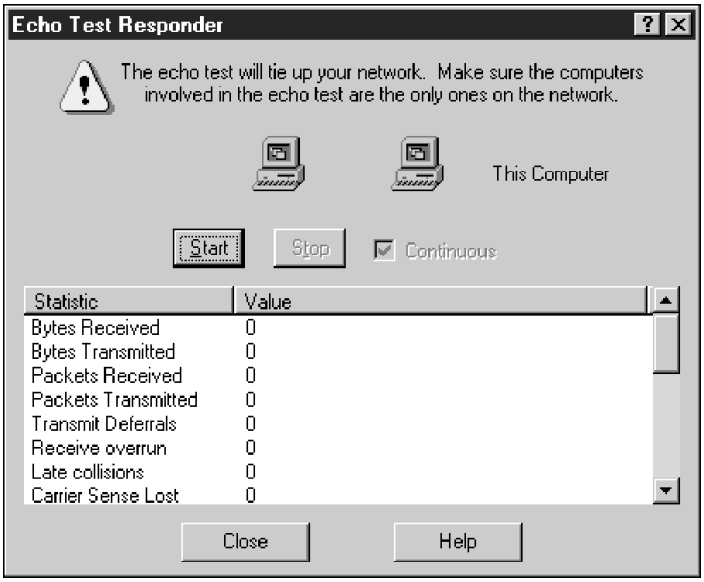
e Click the Diagnostics tab to display the Diagnostics screen, shown in Figure 11.

2 **On the second PC (the *responding* PC):**

a Click *Respond* in the Echo Test panel.

The Echo Test Responder screen (Figure 12) appears.

Figure 12 Echo Test Responder Screen



b Click *Start*.

3 **On the first PC (the *sending* PC):**

a Click *Send* on the Diagnostics screen.

The Echo Test Sender screen (Figure 13) appears.

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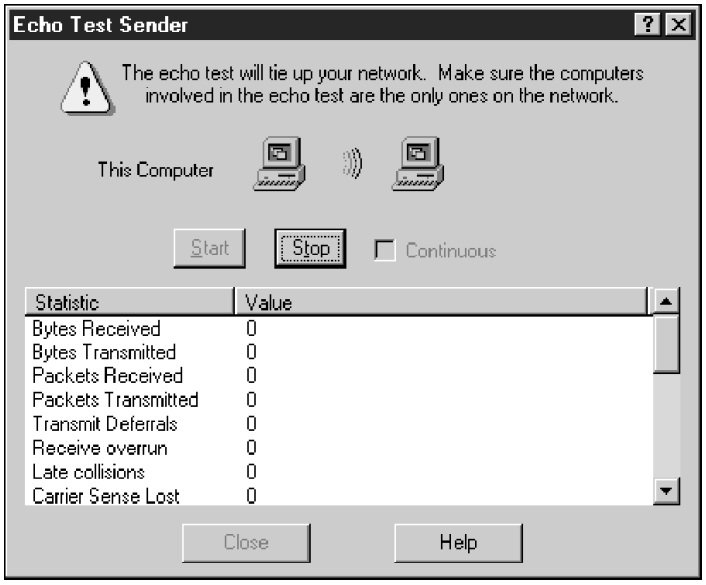
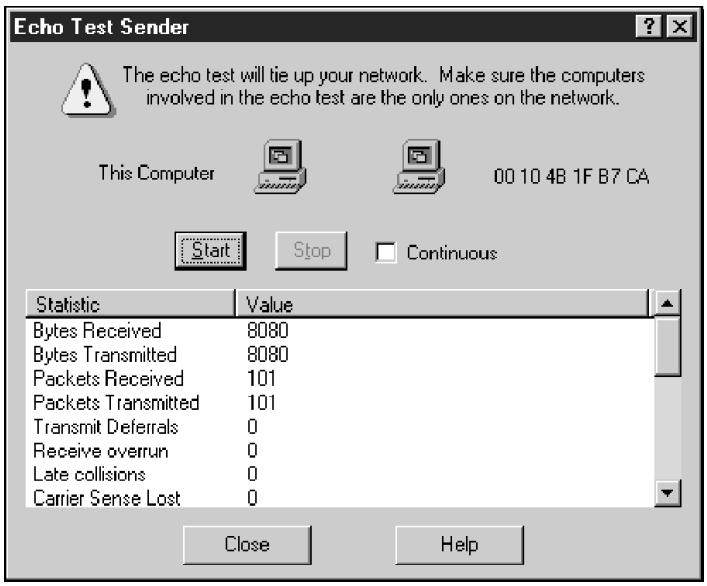
Figure 13 Echo Test Sender Screen



b Click *Start*.

The two PCs attempt to transmit data to each other. Statistics appear in the window, as shown in Figure 14.

Figure 14 Echo Test Statistics Screen



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- If the values of the Bytes Received, Bytes Transmitted, Packets Received, or Packets Transmitted statistics increase, the two PCs are successfully transmitting data over the network.
- If the values of the statistics remain at zero, or if there are excessive collisions, the two PCs aren't transmitting data successfully over the network. Check the following:
  - Ensure that the network hub or device to which the NIC is connected and the cable connecting to your NIC comply with the 10BASE-T or 100BASE-TX specifications. (See Appendix A.)
  - Ensure that the network hub or device to which the NIC is connected is powered on.

For a description of each statistic, click the Help *button on the screen or click the question mark (?) at the top of the screen, move it over the topic, and click once. A pop-up box displays information about the statistic.*

c Close all open windows when the Echo test is finished.

Accessing the Help System

The OfficeConnect NIC Help system is a Windows Help application that includes numerous Help topics about the OfficeConnect NIC.

To access the OfficeConnect NIC Help system:

1 **From the Windows *Start* menu, select *Programs*.**

2 **Select *3Com NIC Utilities*.**

3 **Click *3nichelp*.**

For PCs running Windows NT 3.51, from the File *menu, select* Run. *At the command prompt, enter the path for the 3Com NIC Help system. The default path is* C:\WINNT35\SYSTEM32\3NICDIAG.HLP.

The main Help screen appears, displaying information about the 3Com NIC Diagnostics General screen.

4 **Click *Help Topics* to display a list of Help topics or click *Find* to search for a Help topic.**

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Viewing Release Notes, Frequently Asked Questions, and KnowledgeBase Topics

The 3Com NIC Diagnostics program contains a substantial database of support-related and service-related data that you can access in the following categories: release notes, frequently asked questions, and KnowledgeBase topics.

To access the support database:

1. **Double-click the 3Com icon in the Windows system tray.**

   If the 3Com icon isn't visible in the system tray, follow the instructions in the section "Starting the 3Com NIC Diagnostics Program" earlier in this chapter.

2. **Click *OK*.**

3. **Click the Support tab.**

   The Support screen appears.

4. **Click *Release Notes*.**

   The Release Notes Help screen appears.

   - Click the Release Notes link to display tips about installing and using the OfficeConnect NIC.
   - Click the Frequently Asked Questions link to display common questions asked by customers and answered by 3Com support experts.
   - Click the KnowledgeBase link to display OfficeConnect NIC compatibility topics.

Accessing 3Com Support Services

The Support screen provides access to the 3Com World Wide Web site, customer support databases (such as release notes and frequently asked questions), and the problem report generator.

To access 3Com support services:

1. **Double-click the 3Com icon in the Windows system tray.**

   If the 3Com icon isn't visible in the system tray, follow the instructions in the section "Starting the 3Com NIC Diagnostics Program" earlier in this chapter.

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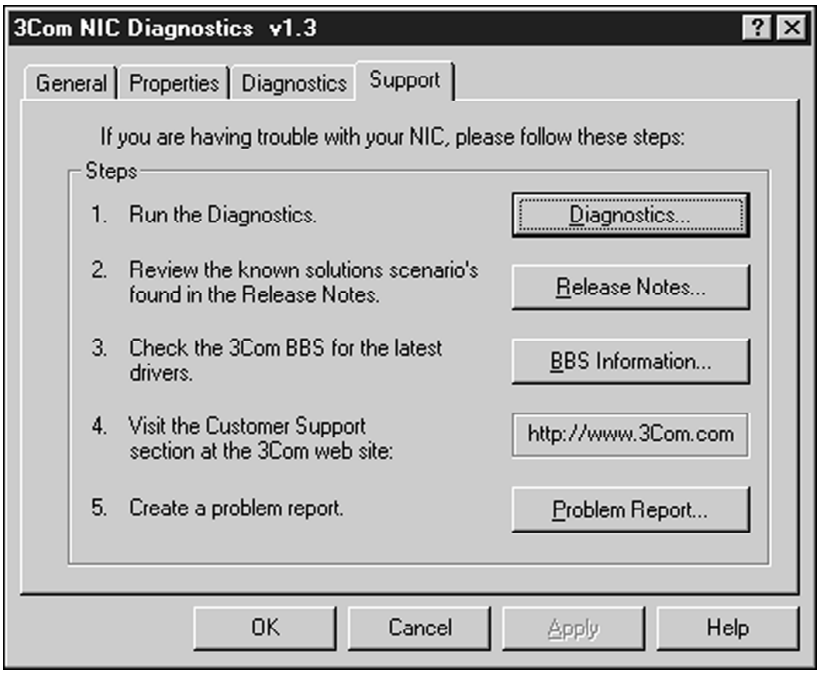
2 Click *OK*.

3 Click the Support tab.

The Support screen (Figure 15) appears.

Figure 15 Support Screen



- Click *Diagnostics* to run the 3Com NIC diagnostic tests. See "Running the NIC Self-Tests" and "Running the Echo Test" earlier in this chapter for information on how to run the 3Com NIC diagnostic tests.
- Click *Release Notes* to display customer support information databases about the OfficeConnect NIC in three categories: release notes, frequently asked questions, and the KnowledgeBase.
- Click *BBS Information* to display the 3Com BBS telephone numbers and modem speeds.
- The *http://www.3com.com* button displays the 3Com World Wide Web site address.
- Click *Problem Report* if you want to generate a problem report file about an OfficeConnect NIC problem. You can then e-mail this file to 3Com.

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Removing NIC Software

This section describes how to remove a NIC's network driver and software from your PC so that you can reinstall the software or physically remove the NIC from your PC.

If you want to reinstall the OfficeConnect NIC network driver and software, you must first remove the driver and software, as described in this section.

Windows 95 and Windows 98

To remove NIC software in a PC running Windows 95 or Windows 98:

1. **Double-click the My Computer icon, then the Control Panel icon, and then the System icon.**
2. **Click the Device Manager tab.**
3. **Double-click *Network adapters.***
4. **Select the name of the NIC, for example, *3Com OfficeConnect 10/100 Fast Ethernet (3CSOHO100-TX) NIC*.**
5. **Click *Remove*.**
6. **Click *OK* to confirm the device removal.**

   The NIC driver and diagnostic software are removed from the PC.

   You're prompted to restart the PC.

   - If you're physically removing the NIC from the PC, click *No*. Don't restart the PC until you shut down the system, turn the power off, and remove the NIC from the PC.
   - If you're reinstalling the NIC software, click *Yes*.

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Windows NT 4.0

To remove NIC software in a PC running Windows NT 4.0:

1. **Double-click the My Computer icon, then the Control Panel icon, and then the Network icon.**

   The Network screen appears.

2. **Click the Adapters tab.**
3. **Select the name of the NIC in the Network Adapters box, and then click *Remove*.**
4. **Click *Yes* to confirm the removal.**
5. **Click *Close* to close the Network screen.**

   The NIC driver and diagnostic software are removed from the PC.

   You're prompted to restart the PC.

   - If you're physically removing the NIC from the PC, click *No*. Don't restart the PC until you shut down the system, turn the power off, and remove the NIC from the PC.
   - If you're reinstalling the NIC software, click *Yes* to restart the PC.

Windows NT 3.51

To remove NIC software in a PC running Windows NT 3.51:

1. **In the Main Program window, double-click the Control Panel icon, and then the Network icon.**

   The Network Settings window is displayed.

2. **In the Installed Adapter Cards panel, select the name of the installed NIC and click *Remove*.**

   The Network Settings window displays a warning message.

3. **Click *Yes*.**

   The Network Settings window is displayed again. The NIC no longer appears in the Installed Adapter Cards panel.

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4 Click *OK*.

The NIC driver and diagnostic software are removed from the PC.

The Network Settings Change dialog box appears, prompting you to restart.

- If you're physically removing the NIC from the PC, click *No*. Don't restart the PC until you shut down the system, turn the power off, and remove the NIC from the PC.
- If you're reinstalling the NIC software, click *Restart Now*.

Frequently Asked Questions

Table 5 describes some common questions and answers about the OfficeConnect NIC.

To view questions and answers online, follow the instructions in "Viewing Release Notes, Frequently Asked Questions, and KnowledgeBase Topics" earlier in this chapter.

To view additional questions and answers, see the text files located in the HELP directory on the *EtherDisk* diskette.

Table 5 Frequently Asked Questions

Question	Answer
Why does the OfficeConnect NIC install as a "Generic PCI Ethernet Controller" under Other Devices in the Windows 95/98 Device Manager?	When Windows 95/98 is installed *after* the OfficeConnect NIC has already been installed, Windows 95/98 installs the NIC as a generic PCI Ethernet controller. To work around this problem, follow these steps: **1** In the Device Manager, double-click *Other Devices*. **2** Click *PCI Ethernet Controller*. **3** Click *Remove*. **4** Restart your PC.
In Windows 95/98, what should I do if a yellow exclamation point (!) appears next to the NIC name?	**1** In the Device Manager, double-click *Other Devices*. **2** Click *PCI Ethernet Controller* or the duplicate PCI NIC entry. **3** Click *Remove*. **4** Restart your PC.

(continued)

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Table 5 Frequently Asked Questions (continued)

Question	Answer
How do I remove the 3Com icon from my Windows system tray?	**1** Double-click the 3Com icon to start the 3Com NIC Diagnostics program. **2** In the bottom-right corner of the main window, click the *Enable Tray Control* check box to remove the check mark. **3** Exit the program and the icon will not appear anymore.
Which PCI slot should I use for my OfficeConnect NIC?	3Com PCI NICs, such as the OfficeConnect NIC, are designed to work in any bus-mastering PCI slot, preferably slot 1. Normally, slot 1 is marked on the PC motherboard and is located closest to the computer power supply. Avoid any PCI slot next to an ISA slot. This is often a shared slot and does not support bus mastering. The NICs perform best in those slots that support bus-mastering data transfers. Some PCs have three types of expansion slots: PCI, ISA, and EISA. PCI slots are usually white and shorter than the other expansion slots (see Figure 3 in Chapter 2). ISA slots are usually black. EISA slots are usually brown, and are as long as ISA slots. If you're not sure what type of expansion slots your PC has, see your PC documentation for details. Also refer to your PC manual for information on which slots support bus-mastering data transfers.
Do I have to configure the OfficeConnect NIC?	PCI is a self-configuring bus architecture. Most of the time you only need to install the NIC in your PC; PCI does the rest. However, on some PCI computers, you may be required to configure the computer's BIOS manually after installing your PCI NIC. Refer to your PC documentation for more information about your PC's BIOS.
What interrupts should I avoid?	You should avoid using any interrupts used by ISA/EISA boards that do not properly support shared interrupts (level-triggered). If you don't know or aren't sure whether other devices or adapters in your PC support shared interrupts, then avoid using them. Avoid using the same interrupt as your local hard drive (normally IRQ 14 for IDE drives and IRQ 11 for most SCSI host adapters), because not all hard drives support shared interrupts at this time. Avoid using 9 because it cascades with 2.
Does the OfficeConnect NIC support full-duplex?	Yes, the OfficeConnect NIC supports full-duplex operation at 10 Mbps and 100 Mbps. Full-duplex is the ability of a device or line to transmit data simultaneously in both directions (the PC is sending and receiving data at the same time).

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5 CONFIGURING THE NIC

This chapter describes how to display and change configuration settings for the OfficeConnect NIC.

Table 6 describes the configurable settings for the OfficeConnect NIC. The default setting for each option is in bold in the Available Settings column.

Table 6 OfficeConnect NIC Configuration Settings

Option	Description	Available Settings
Network Driver Optimization	Specifies how to optimize the network driver for your network environment. In a client/server environment, the network driver may use a larger percentage of the CPU in order to improve network throughput. In this case, select *Minimize CPU Utilization*. In peer-to-peer networks, or on multitasking PCs, it is best to balance the CPU utilization and the network performance. In this case, select *Normal*.	■ **Normal** ■ Minimized CPU Utilization ■ Maximized Network Performance
Duplex	Specifies the duplex mode, which determines if the NIC transmits data across the network in both directions simultaneously (the PC sends and receives data at the same time) (full-duplex) or in one direction at a time (half-duplex). The OfficeConnect NIC supports full-duplex at 10 Mbps and 100 Mbps. *Auto Select* allows the NIC to automatically connect at the duplex mode of the connected hub.	■ **Auto Select** ■ Full Duplex ■ Half Duplex
Media Type	Determines the type of media your network is using. *Auto Select* allows the NIC to automatically select the type for you, based on the NIC's connection to the hub.	■ 10BASE-T (10Mb/s) ■ 100BASE-TX (100 Mb/s) ■ **Auto Select**

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Displaying Configuration Settings

Use the 3Com NIC Diagnostics program to display and change configuration settings for the OfficeConnect NIC.

The 3Com NIC Diagnostics program is automatically installed when you install the network driver.

To display the current configuration settings for the OfficeConnect NIC:

1 **Make sure that the NIC is installed and is connected to the network and that the network driver is installed.**

2 **Double-click the 3Com icon in the Windows system tray.**

If the 3Com icon isn't visible in the Windows system tray, follow these steps:

a From the Windows *Start* menu, select *Programs*.

b Select *3Com NIC Utilities.*

c Click *3nicdiag.*

For PCs running Windows NT 3.51, from the File *menu, select* Run. *At the command prompt, enter the path for the 3Com NIC Diagnostics program. The default path is* C:\WINNT35\SYSTEM32\3NICDIAG.EXE.

A warning message appears, stating that your PC will be disconnected from the network.

This means that no applications other than the 3Com NIC Diagnostics program will be able to connect to the network while you run the diagnostics program.

All applications are automatically reconnected to the network when you exit the diagnostics program. If your PC doesn't automatically reconnect to the network, reboot the PC.

3 **Click *OK*.**

The 3Com NIC Diagnostics General screen (Figure 16) appears.

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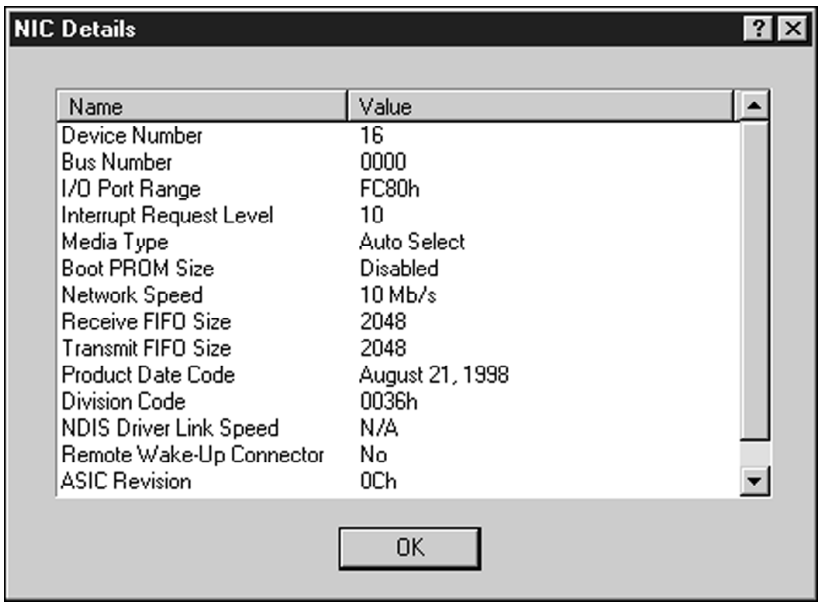
Figure 16 General Screen

Click the Help *button to receive information about the diagnostic screen that's currently active.*

4 Click *NIC Details*.

The NIC Details screen (Figure 17) appears.

Figure 17 NIC Details Screen



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Each configuration setting is displayed with its current value.

For a description of each setting, click the question mark in the upper right corner of the screen, drag it to a setting, and click once. A pop-up box appears, displaying information for the selected setting.

5 **Click *OK* to exit this screen.**

Changing Configuration Settings

To change OfficeConnect NIC configuration settings:

1 **Double-click the 3Com icon in the Windows system tray.**

If the 3Com icon isn't visible in the Windows system tray, follow these steps:

a From the Windows *Start* menu, select *Programs*.

b Select *3Com NIC Utilities.*

c Click *3nicdiag.*

For PCs running Windows NT 3.51, from the File *menu, select* Run. *At the command prompt, enter the path for the 3Com NIC Diagnostics program. The default path is* C:\WINNT35\SYSTEM32\3NICDIAG.EXE.

A warning message appears, stating that your PC will be disconnected from the network.

This means that no applications other than the 3Com NIC Diagnostics program will be able to connect to the network while you run the diagnostics program.

All applications are automatically reconnected to the network when you exit the diagnostics program. If your PC doesn't automatically reconnect to the network, reboot the PC.

2 **Click *OK*.**

3 **Click the Properties tab.**

The 3Com NIC Diagnostics Properties screen (Figure 18) appears.

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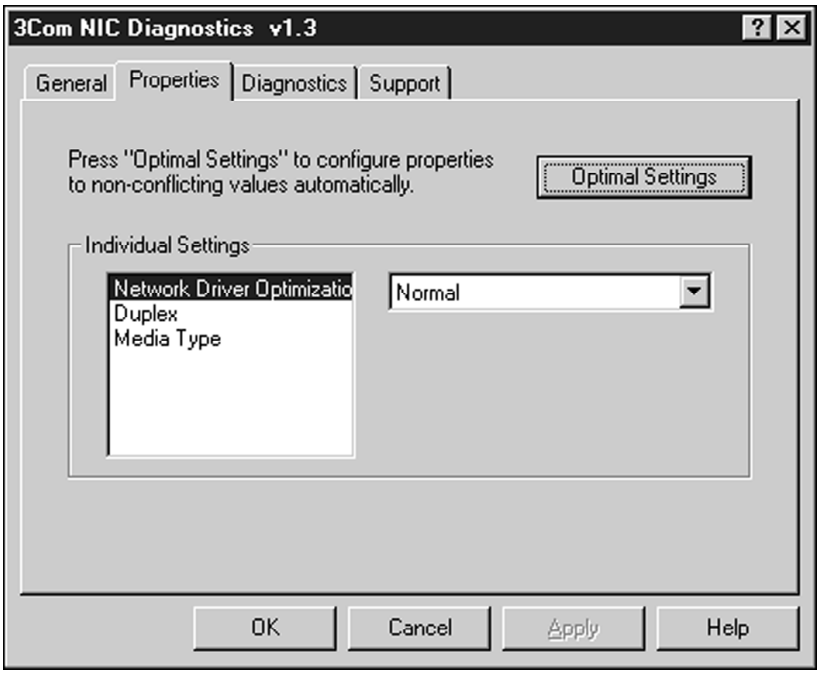
Figure 18 Properties Screen



4 Change the NIC's configuration:

- To automatically configure the NIC to nonconflicting values with your PC, click *Optimal Settings*.
- To manually configure the NIC:

a Select an option in the Individual Settings panel.

For a description of each option, see Table 6 at the beginning of this chapter.

b Click the down arrow in the list box and select a new value for the option.

c Repeat the process to change any other setting on the Properties screen.

5 Click *OK* to save values or *Cancel* to exit without saving values.

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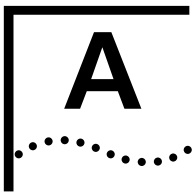

SPECIFICATIONS AND CABLING REQUIREMENTS

This appendix lists the specifications and cable requirements for the OfficeConnect NIC.

Specifications

Network Interface

10 Mbps Ethernet 10BASE-T	Ethernet IEEE 802.3 industry standard for a 10 Mbps baseband CSMA/CD local area network
100 Mbps Fast Ethernet 100BASE-TX	Ethernet IEEE 802.3u industry standard for a 100 Mbps baseband CSMA/CD local area network

Physical Dimensions

Height:	8.57 cm (3.75 in.)
Length:	12.07 cm (4.75 in.)

Environmental Operating Range

Operating temperature:	0˚ to 70 ˚C (32˚ to 158 ˚F)
Humidity:	10 to 90% noncondensing

Power Requirements

Operating voltage:	+5 V ± 5% @ 650 mA max

Cabling Requirements

The cable, quality, distance, and connectors must comply with the Electronic Industries Association/ Telecommunications Industries Association (EIA/TIA) 568 *Commercial Building Wiring Standard* and the Technical Services Bulletin TSB38 standards.

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Unshielded Twisted-Pair Cable

Twisted-pair cable consists of copper wires surrounded by an insulator. Two wires are twisted together (the twisting prevents interference problems) to form a pair, and the pair forms a circuit that can transmit data. A cable is a bundle of one or more twisted pairs surrounded by an insulator.

Unshielded twisted pair (UTP) is the most commonly used type of twisted-pair cable. Shielded twisted pair (STP) provides protection against crosstalk. Twisted-pair cable is now commonly used in Ethernet, Fast Ethernet, and other network topologies.

The EIA/TIA defines five categories of unshielded twisted-pair cable (see Table 7).

Table 7 Unshielded Twisted-pair Cable Categories

Category	Use
1	Traditional telephone cable.
2	Data transmissions up to 4 MHz.
3	Voice and data transmission up to 25 MHz. The cable typically has four pairs of wires. Category 3 is the most common type of installed cable found in older corporate wiring schemes.
4	Voice and data transmission up to 33 MHz. The cable normally has four pairs of wire. This grade of UTP isn't common.
5	Voice and data transmission up to 125 MHz. The cable normally has four pairs of copper wire and three twists per foot. Category 5 UTP is the most popular cable used in new installations today.

10BASE-T Operation

10BASE-T is the Institute of Electrical and Electronics Engineers (IEEE) 802.3 standard for Ethernet signaling over unshielded twisted-pair wire at 10 Mbps.

Ethernet, as the most widely used network protocol, uses 10BASE-T as its primary cabling scheme. Ethernet's characteristics include:

- A data rate of 10 Mbps
- A broadcast architecture
- A specific media-access control (MAC) scheme

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10BASE-T Specifications

The 10BASE-T name indicates a signaling speed of 10 Mbps and twisted-pair wiring. *Base* stands for baseband, which denotes a technique for transmitting signals as direct-current pulses rather than modulating them onto separate carrier frequencies.

A wiring topology using 10BASE-T specifies a wiring hub, cable arranged in a star configuration, and unshielded twisted-pair cable. Each node has a separate cable run that must not exceed 100 meters (328 ft) from the node to the hub.

100BASE-TX Operation

100BASE-TX is the Institute of Electrical and Electronics Engineers (IEEE) 802.3u standard for Ethernet signaling over unshielded twisted-pair wire at 100 Mbps.

Fast Ethernet uses 100BASE-TX as its primary cabling scheme. Fast Ethernet's characteristics include:

- A data rate of 100 Mbps
- A broadcast architecture
- A specific media-access control (MAC) scheme

100BASE-TX Specifications

The 100BASE-TX name indicates a signaling speed of 100 Mbps and twisted-pair wiring. *Base* stands for baseband, which denotes a technique for transmitting signals as direct-current pulses rather than modulating them onto separate carrier frequencies.

A wiring topology using 100BASE-T specifies a wiring hub, cable arranged in a star configuration, and unshielded twisted-pair cable. Each node has a separate cable run that must not exceed 100 meters (328 ft) from the node to the hub.

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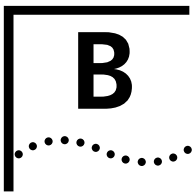

TECHNICAL SUPPORT

3Com provides easy access to technical support information through a variety of services. This appendix describes these services.

Information contained in this appendix is correct at time of publication. For the very latest, 3Com recommends that you access the 3Com Corporation World Wide Web site.

Online Technical Services

3Com offers worldwide product support 24 hours a day, 7 days a week, through the following online systems:

- World Wide Web site
- 3Com FTP site
- 3Com Bulletin Board Service (3Com BBS)
- 3ComFacts℠ automated fax service

World Wide Web Site

Access the latest networking information on the 3Com Corporation World Wide Web site by entering the URL into your Internet browser:

`http://www.3com.com/`

This service provides access to online support information such as technical documentation and software library, as well as support options ranging from technical education to maintenance and professional services.

3Com FTP Site

Download drivers, patches, software, and MIBs across the Internet from the 3Com public FTP site. This service is available 24 hours a day, 7 days a week.

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To connect to the 3Com FTP site, enter the following information into your FTP client:

- Hostname: **ftp.3com.com** (or **192.156.136.12**)
- Username: **anonymous**
- Password: **<your Internet e-mail address>**

A user name and password are not needed with Web browser software such as Netscape Navigator and Internet Explorer.

3Com Bulletin Board Service

The 3Com BBS contains patches, software, and drivers for 3Com products. This service is available through analog modem or digital modem (ISDN) 24 hours a day, 7 days a week.

Access by Analog Modem

To reach the service by modem, set your modem to 8 data bits, no parity, and 1 stop bit. Call the telephone number nearest you:

Country	Data Rate	Telephone Number
Australia	Up to 14,400 bps	61 2 9955 2073
Brazil	Up to 14,400 bps	55 11 5181 9666
France	Up to 14,400 bps	33 1 6986 6954
Germany	Up to 28,800 bps	4989 62732 188
Hong Kong	Up to 14,400 bps	852 2537 5601
Italy	Up to 14,400 bps	39 2 27300680
Japan	Up to 14,400 bps	81 3 3345 7266
Mexico	Up to 28,800 bps	52 5 520 7835
P.R. of China	Up to 14,400 bps	86 10 684 92351
Taiwan, R.O.C.	Up to 14,400 bps	886 2 377 5840
U.K.	Up to 28,800 bps	44 1442 438278
U.S.A.	Up to 53,333 bps	1 847 262 6000

Access by Digital Modem

ISDN users can dial in to the 3Com BBS using a digital modem for fast access up to 64 Kbps. To access the 3Com BBS using ISDN, use the following number:

1 847 262 6000

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3ComFacts Automated Fax Service

The 3ComFacts automated fax service provides technical articles, diagrams, and troubleshooting instructions on 3Com products 24 hours a day, 7 days a week.

Call 3ComFacts using your Touch-Tone telephone:

1 408 727 7021

Support from Your Network Supplier

If additional assistance is required, contact your network supplier. Many suppliers are authorized 3Com service partners who are qualified to provide a variety of services, including network planning, installation, hardware maintenance, application training, and support services.

When you contact your network supplier for assistance, have the following information ready:

- Product model name, part number, and serial number
- A list of system hardware and software, including revision levels
- Diagnostic error messages
- Details about recent configuration changes, if applicable

If you are unable to contact your network supplier, see the following section on how to contact 3Com.

Support from 3Com

If you are unable to obtain assistance from the 3Com online technical resources or from your network supplier, 3Com offers technical telephone support services. To find out more about your support options, please call the 3Com technical telephone support phone number at the location nearest you.

When you contact 3Com for assistance, have the following information ready:

- Product model name, part number, and serial number
- A list of system hardware and software, including revision levels
- Diagnostic error messages
- Details about recent configuration changes, if applicable

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Below is a list of worldwide technical telephone support numbers:

Country	Telephone Number
Asia Pacific Rim	
Australia	1 800 678 515
Hong Kong	800 933 486
India	61 2 9937 5085
Indonesia	001 800 61 009
Japan	0031 61 6439
Malaysia	1800 801 777
New Zealand	0800 446 398
Pakistan	61 2 9937 5085
Philippines	1235 61 266 2602
P.R. of China	10800 61 00137 or 021 6350 1590
Singapore	800 6161 463
S. Korea	
From anywhere in S. Korea:	82 2 3455 6455
From Seoul:	00798 611 2230
Taiwan, R.O.C.	0080 611 261
Thailand	001 800 611 2000
Europe	
From anywhere in Europe, call:	+31 (0)30 6029900 phone +31 (0)30 6029999 fax
From the following European countries, you may use the toll-free numbers:	
Austria	06 607468
Belgium	0800 71429
Denmark	800 17309
Finland	0800 113153
France	0800 917959
Germany	0130 821502
Hungary	00800 12813
Ireland	1 800 553117
Israel	177 3103794
Italy	1678 79489
Netherlands	0800 0227788
Norway	800 11376
Poland	0800 3111206
Portugal	05 05313416
South Africa	0800 995014
Spain	900 983125
Sweden	020 795482
Switzerland	0800 55 3072
U.K.	0800 966197

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Country	Telephone Number
Latin America	
Argentina	AT&T +800 666 5065
Brazil	0800 13 3266
Chile	1230 020 0645
Colombia	98012 2127
Mexico	01 800 CARE (01 800 2273)
Peru	AT&T +800 666 5065
Puerto Rico	800 666 5065
Venezuela	AT&T +800 666 5065
North America	1 800 NET 3Com (1 800 638 3266)

Returning Products for Repair

Before you send a product directly to 3Com for repair, you must first obtain a Return Materials Authorization (RMA) number. Products sent to 3Com without RMA numbers will be returned to the sender unopened, at the sender's expense.

To obtain an RMA number, call or fax:

Country	Telephone Number	Fax Number
Asia, Pacific Rim	65 543 6500	65 543 6348
Europe, South Africa, and Middle East	+ 44 1442 435860	+ 44 1442 435718

From the following European countries, you may call the toll-free numbers; select option 2 and then option 2:

Austria	06 607468
Belgium	0800 71429
Denmark	800 17309
Finland	0800 113153
France	0800 917959
Germany	0130 821502
Hungary	00800 12813
Ireland	1800553117
Israel	177 3103794
Italy	1678 79489
Netherlands	0800 0227788
Norway	800 11376
Poland	00800 3111206
Portugal	05 05313416
South Africa	0800 995014
Spain	900 983125
Sweden	020 795482
Switzerland	0800 55 3072
U.K.	0800 966197

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Country	Telephone Number	Fax Number
Latin America	1 408 326 2927	1 408 326 3355
U.S.A. and Canada	1 800 NET 3Com (1 800 638 3266)	1 408 326 7120

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GLOSSARY

10BASE-T

Institute of Electrical and Electronics Engineers (IEEE) 802.3 standard for Ethernet signaling over unshielded twisted-pair wire at 10 Mbps.

100BASE-TX

IEEE 802.3u standard for Ethernet signaling over Category 5 unshielded twisted-pair wire at 100 Mbps.

BIOS

Basic Input/Output System. Collection of services on a ROM (read-only memory) chip that enables hardware and software, operating systems and applications, and applications and users to communicate with one another.

The BIOS on a PC can be updated and expanded to handle newer devices and greater demands. To get a newer BIOS, you replace the ROM chip in your PC with an upgraded chip.

bus mastering

Method for accessing the PC bus in which a card or device takes control of the bus in order to send data onto the bus directly, without help from the central processing unit (CPU).

client/server network

Networking architecture in which all shared applications and files are stored on one central computer known as a server. Network users (known as clients) can store their own files on their own PCs and then use the server to access shared files and peripherals, such as printers, fax machines, and modems.

Ethernet

IEEE standard network protocol that specifies how data is placed on and retrieved from a common transmission medium. Ethernet has a transfer rate of 10 Mbps.

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Fast Ethernet

100 Mbps technology based on the 10BASE-T Ethernet network protocol.

full-duplex

Communication setup in which a device or line transmits data simultaneously in both directions (the PC is sending and receiving data at the same time).

half-duplex

Communication setup in which a device or line transmits data in only one direction at a time.

hub

Device that serves as the central location for attaching wires from workstations. A hub can be passive, when there is no amplication of the signals; or active, when it is used like a repeater to provide an extension of the cable that connects to a workstation.

network

Group of computers and other associated devices, such as printers, fax machines, and modems, that are connected to one another so they can share resources and information.

network driver optimization

Driver option that specifies how to optimize performance of the network driver for your environment.

network operating system (NOS)

System software that runs on the network's file server, with a smaller component that runs on each device attached to the network. Examples of client/server NOSs include Novell NetWare and Microsoft NT. Examples of peer-to-peer NOSs include Windows 95 and Windows 98.

NDIS

Network Driver Interface Specification. Defines the network driver architecture and interfaces that let a PC support NICs. This architecture provides a standardized way to write drivers for network NICs.

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PCI

Peripheral Component Interconnect. Advanced, high-performance local bus that supports multiple peripheral devices. A local bus is one that is connected directly to the PC's central processing unit (CPU).

peer-to-peer network

Networking architecture in which PCs and other devices, such as printers and fax machines, are connected directly to one another or to a central point, usually a hub. Unlike a client/server network, a peer-to-peer network does not use a server.

server

PC that provides access to resources or services such as files, printers, fax machines, and e-mail on a client/server network.

Servers may be distinguished by the elements to which they control access (for example, on a client/server network there may be a print server, file server, or communications server).

switch

Device that can direct network traffic among several Ethernet networks.

unshielded twisted pair (UTP) cabling

Most commonly used type of twisted-pair cable. Twisted-pair cable consists of copper wires surrounded by an insulator. Two wires are twisted together (the twisting prevents interference problems) to form a pair, and the pair forms a circuit that can transmit data. A cable is a bundle of one or more twisted pairs surrounded by an insulator.

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3Com Corporation LIMITED WARRANTY

HARDWARE

3Com warrants its hardware products to be free from defects in workmanship and materials, under normal use and service, for the following lengths of time from the date of purchase from 3Com or its authorized reseller:

Network Interface Cards	Lifetime
Other hardware products *unless otherwise specified above	1 year*
Spare parts and spares kits	90 days

If a product does not operate as warranted above during the applicable warranty period, 3Com shall, at its option and expense, repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of 3Com. Replacement products may be new or reconditioned. Any replaced or repaired product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

SOFTWARE

3Com warrants that the software programs licensed from it will perform in substantial conformance to the program specifications therefor for a period of ninety (90) days from the date of purchase from 3Com or its authorized reseller. 3Com warrants the media containing software against failure during the warranty period. No updates are provided. 3Com's sole obligation with respect to this express warranty shall be (at 3Com's discretion) to refund the purchase price paid by Customer for any defective software products, or to replace any defective media with software which substantially conforms to applicable 3Com published specifications. Customer assumes responsibility for the selection of the appropriate applications program and associated reference materials. 3Com makes no warranty or representation that its software products will meet Customer's requirements or work in combination with any hardware or applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third party products listed in the 3Com software product documentation or specifications as being compatible, 3Com will make reasonable efforts to provide compatibility, except where the non-compatibility is caused by a "bug" or defect in the third party's product.

YEAR 2000 WARRANTY

In addition to the Hardware Products Warranty and Software Products Warranty identified above, 3Com warrants that all Heritage 3Com products sold or licensed to Customer on and after January 1, 1998 that are date sensitive will continue performing properly with regard to such date data on and after January 1, 2000, provided that all other products used by Customer in connection or combination with the 3Com products, including hardware, software, and firmware, accurately exchange date data with the 3Com products, with the exception of those products identified at 3Com's Web site, http://www.3com.com/products/yr2000.html, as not meeting this standard. A product is considered a "Heritage 3Com product" if it is a member of a product family which was manufactured by 3Com prior to its merger with US Robotics Corporation. This Year 2000 limited warranty does not apply to Heritage US Robotics Corporation products. If it appears that any such product does not perform properly with regard to such date data on and after January 1, 2000, and Customer notifies 3Com before the later of April 1, 2000, or ninety (90) days after purchase of the product from 3Com or its authorized reseller, 3Com shall, at its option and expense, provide a software update which would effect the proper performance of such product, repair such product, deliver to Customer an equivalent product to replace such product, or if none of the foregoing is feasible, refund to Customer the purchase price paid for such product.

Any software update or replaced or repaired product will carry a Year 2000 Warranty for ninety (90) days or until April 1, 2000, whichever is later.

OBTAINING WARRANTY SERVICE

Customer must contact 3Com's Corporate Service Center or an Authorized 3Com Service Center within the applicable warranty period to obtain warranty service authorization. Dated proof of purchase may be required. Products returned to 3Com's Corporate Service Center must be pre-authorized by 3Com with a Return Material Authorization (RMA) number marked on the outside of the package, and sent prepaid and packaged appropriately for safe shipment, and it is recommended that they be insured. The repaired or replaced item will be shipped to Customer, at 3Com's expense, not later than thirty (30) days after receipt of the defective product by 3Com.

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Dead- or Defective-on-Arrival. In the event a product completely fails to function or exhibits a defect in materials or workmanship within the first forty-eight (48) hours of installation but no later than thirty (30) days after the date of purchase, and this is verified by 3Com, it will be considered dead- or defective-on-arrival (DOA) and a replacement shall be provided by advance replacement. The replacement product will normally be shipped not later than three (3) business days after 3Com's verification of the DOA product, but may be delayed due to export or import procedures. When an advance replacement is provided and Customer fails to return the defective product to 3Com within fifteen (15) days after shipment of the replacement, 3Com will charge Customer for the replacement product, at list price.

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3Com Corporation, 5400 Bayfront Plaza, Santa Clara, CA 95052-8145 (408) 326-5000

FCC CLASS B STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1 This device may not cause harmful interference, and

2 This device must accept any interference received, including interference that may cause undesired operation.

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WARNING: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules, and the Canadian Department of Communications Equipment Standards entitled, "Digital Apparatus," ICES-003.These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from the one which the receiver is connected to.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the following booklet prepared by the Federal Communications Commission helpful:

The Interference Handbook

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402. Stock No. 004-000-00345-4.

NOTE: In order to maintain compliance with the limits of a Class B digital device, 3Com requires that you use quality interface cables when connecting to this device. Changes or modifications not expressly approved by 3Com could void the user's authority to operate this equipment. Refer to the manual for specifications on cabling types.

FCC Declaration of Conformity

We declare under our sole responsibility that the

Model:	**Description:**
3CSOHO100-TX	OfficeConnect Fast Ethernet Network Interface Card

to which this declaration relates, is in conformity with the following standards or other normative documents:

- ANSI C63.4-1992 Methods of Measurement
- Federal Communications Commission 47 CFR Part 15, subpart B
  15.107 (e) Class B Conducted Limits
  15.109 (g) Class B Radiated Emissions Limits

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3Com End User Software License Agreement

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